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10/528,956	05/05/2005	Gerhard Oberhoffner	14603-013US1 P2002,0800 U	8758
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EXAMINER				
GAMIL TEJAL				
ART UNIT		PAPER NUMBER		
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PATDOCTC@fr.com

### Office Action Summary

**Application No.**

10/528,956

**Applicant(s)**

OBERHOFFNER ET AL.

**Examiner**

TEJAL J. GAMI

**Art Unit**

2121

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 24 June 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/ICE)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. This office action is responsive to an **AMENDMENT** entered June 24, 2009 for the patent application 10/528956.

#### **Status of Claims**

2. Claims 1-20 were rejected in the last Office Action dated February 24, 2009.  
As a response to the February 24, 2009 office action, Applicant has Amended claims 1, 8, and 16.

Claims 1-20 are now presented for examination in this office action.

#### ***Claim Objections***

3. Claim 1 is objected to because of the following informalities:

Claim 1, Line 5 appears to have a typographical error. The word "and" is repeated.

Claim 16, Line 5 appears to have a typographical error. The word "and" is repeated.

Appropriate correction is required.

#### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Hyatt (U.S. Patent Number: 5,339,275).

**As to independent claim 1**, Hyatt discloses a controller (see Col. 48, Lines 18-33) comprising:

a control circuit (e.g., circuit 996) (see Figure 12B) comprising:

an input (e.g., signal 936, and decoder signals) (see Figure 12B);

an output (e.g., signal 960) (see Figure 12B);

a forward path (e.g., signal 507) coupled to the input (e.g., decoder signals) and to the output (e.g., signal 960) (see Col. 19, Lines 35-43; Figure 5 and 12B);

a feedback path coupled to the output and to the input (see Col. 19, Lines 35-43); and

a sensor (e.g., filter..register 501) (see Col. 116, Lines 56-61), which is in the forward path or in the feedback path (see Figure 5 and 12B), the sensor for generating a sensor signal (e.g., magnetostrictive signals) (see Col. 116, Lines 56-61);

an error signal generator (e.g., CCD error mechanism) to generate an error signal (e.g., bias errors) (see Col. 64, Line 63 to Col. 65, Line 4) and to provide the error signal to the control circuit such that the error signal is applied to a signal on the forward path of the control circuit (e.g., bias reference signal will be shifted out of CCD memory

932 to refresh circuit 996 for compensating the data signal 936 for bias errors) (see Figure 9F; and Col. 65, Lines 14-17), wherein the error signal is predetermined (e.g., bias errors) (see Col. 65, Lines 2-4) and wherein the error signal generator is external to the control circuit (e.g., out of CCD memory 932 to refresh circuit 996) (see Figure 9F; and Col. 65, Lines 14-17), wherein the forward path is configured to generate an output signal based on the sensor signal and the error signal (e.g., data signal 936 for bias errors) (see Figure 9F; and Col. 65, Lines 14-17), the output signal being sent along the feedback path to the input of the forward path (e.g., to generated refreshed or compensated output signal 960) (see Figure 9F and 9H; and Col. 65, Lines 17-21); and

a detector (e.g., detectors 643 and 645), which is coupled to the forward path (e.g., used in conjunction with CCD memory), to obtain an intermediate signal from the forward path between the input and the output, the detector for generating a control signal (see Col. 82, Lines 34-44; and Figure 12B);

wherein the forward path comprises a control device, which is coupled to the input (e.g., CCD memory..discharge), to limit the output signal to a predetermined value (see Col. 99, Lines 36-43; and Figure 12B), the detector (e.g., detectors 643 and 645) for controlling the control device using the control signal (see Col. 82, Lines 34-44).

**As to independent claim 8**, Hyatt discloses a method of operating a controller (see Col. 48, Lines 18-33) comprised of:

an input (e.g., signal 936, and decoder signals) (see Figure 12B);

an output (e.g., signal 960) (see Figure 12B);

a forward path (e.g., signal 507) that includes an input (e.g., decoder signals) and an output (e.g., signal 960) (see Col. 19, Lines 35-43; Figure 5 and 12B);

a feedback path coupled to the output and to the input (see Col. 19, Lines 35-43);  
and

a sensor (e.g., filter..register 501) (see Col. 116, Lines 56-61), which is in the forward path or in the feedback path (see Figure 5 and 12B), the sensor generating a sensor signal (e.g., magnetostrictive signals) (see Col. 116, Lines 56-61), the forward path generating an output signal based on the sensor signal (see Col. 19, Lines 35-43), the output signal being applied to the input of the forward path via the feedback path (see Col. 19, Lines 35-43);

wherein the method comprises:

generating an error signal that is predetermined (e.g., CCD error mechanism), the error signal being generated outside the forward path and the feedback path (e.g., bias errors) (see Col. 64, Line 63 to Col. 65, Line 4);

applying the error signal to a signal on the forward path between the input and the output (e.g., bias reference signal will be shifted out of CCD memory 932 to refresh circuit 996 for compensating the data signal 936 for bias errors) (see Figure 9F; and Col. 65, Lines 14-17);

obtaining an intermediate signal from the forward path between the input and the output (see Col. 19, Lines 35-43), the intermediate signal being obtained using a detector (e.g., detectors 643 and 645) that is coupled to the forward path

(e.g., used in conjunction with CCD memory) (see Col. 82, Lines 34-44; and Figure 12B);

generating a comparison (e.g., if) signal by comparing the intermediate signal to a stored measurement signal (e.g., time delay) (see Col. 19, Lines 35-43);

generating a control signal (e.g., feedback or feedforward) based on the comparison signal (see Col. 19, Lines 35-43); and

applying the control signal to a control device in the forward path (see Col. 19, Lines 35-43), the control device being coupled to the input (e.g., CCD memory..discharge) (see Col. 99, Lines 36-43; and Figure 12B), the control device limiting the output signal to a predetermined value in response to the control signal (see Col. 99, Lines 36-43).

**As to independent claim 16**, Hyatt discloses a controller (see Col. 48, Lines 18-33) comprising:

a control circuit (e.g., circuit 996) (see Figure 12B) comprising:

an input (e.g., signal 936, and decoder signals) (see Figure 12B);

an output (e.g., signal 960) (see Figure 12B);

a forward path (e.g., signal 507) coupled to the input (e.g., decoder signals) and to the output (e.g., signal 960) (see Col. 19, Lines 35-43; Figure 5 and 12B);

a feedback path coupled to the output and to the input (see Col. 19, Lines 35-43);  
and

a sensor (e.g., filter..register 501) (see Col. 116, Lines 56-61), which is in the forward path or in the feedback path (see Figure 5 and 12B), the sensor for generating a sensor signal based on an input signal applied to the input (e.g., magnetostrictive signals) (see Col. 116, Lines 56-61), wherein the forward path is configured to generate an output signal based on the sensor signal (see Col. 19, Lines 35-43), the output signal being sent along the feedback path to the input of the forward path (see Col. 19, Lines 35-43);

an error signal generator (e.g., CCD error mechanism) to generate an error signal (e.g., bias errors) (see Col. 64, Line 63 to Col. 65, Line 4) and to provide the error signal to the control circuit such that the error signal is applied to a signal on the forward path of the control circuit (e.g., bias reference signal will be shifted out of CCD memory 932 to refresh circuit 996 for compensating the data signal 936 for bias errors) (see Figure 9F; and Col. 65, Lines 14-17), wherein the error signal is predetermined (e.g., bias errors) (see Col. 65, Lines 2-4) and wherein the error signal generator is external to the control circuit (e.g., out of CCD memory 932 to refresh circuit 996) (see Figure 9F; and Col. 65, Lines 14-17), wherein the forward path is configured to generate an output signal based on the sensor signal and the error signal (e.g., data signal 936 for bias errors) (see Figure 9F; and Col. 65, Lines 14-17), the output signal being sent along the feedback path to the input of the forward path (e.g., to generated refreshed or compensated output signal 960) (see Figure 9F and 9H; and Col. 65, Lines 17-21);

a detector (e.g., detectors 643 and 645), which is coupled to the forward path (e.g., used in conjunction with CCD memory), to obtain an intermediate signal from the



forward path between the input and the output , the detector for generating a control signal using the intermediate signal (see Col. 82, Lines 34-44; and Figure 12B);

wherein the forward path comprises a control device, which is coupled to the input (e.g., CCD memory..discharge), to limit the output signal to a predetermined value (see Col. 99, Lines 36-43; and Figure 12B), the detector (e.g., detectors 643 and 645) for controlling the control device using the control signal (see Col. 82, Lines 34-44).

**As to dependent claim 2**, Hyatt teaches the controller of claim 1, wherein the detector (e.g., detectors 643 and 645) (see Col. 82, Lines 34-44) comprises:

a storage device (e.g., memory) to store a measurement signal (see Col. 76, Lines 36-41); and

a comparator (e.g., comparitor 617) to compare the intermediate signal to the measurement signal and to output a comparator signal (see Col. 23, Lines 36-37).

**As to dependent claim 3**, Hyatt teaches the controller of claim 2, wherein the detector (e.g., detectors 643 and 645) (see Col. 82, Lines 34-44) further comprises:

decision logic (e.g., comparison logic) to receive the comparator (e.g., comparator 617) signal and to control the control device in accordance with the comparator signal (see Col. 88, Lines 48-68).

**As to dependent claim 4**, Hyatt teaches the controller of claim 1, wherein the control device comprises a clamp circuit (see Col. 82, Lines 35-44).

**As to dependent claim 5**, Hyatt teaches the controller of claim 2, wherein the comparator comprises at least one of a signal level comparator and a signal sign comparator (see Col. 23, Lines 36-64).

**As to dependent claim 6**, Hyatt teaches the controller of claim 1, further comprising:

a time signal generator to generate a time signal output, wherein the error signal generator is configured to generate the error signal based on the time signal output (see Col. 87, Lines 56-62).

**As to dependent claim 7**, Hyatt teaches the controller of claim 1, wherein the sensor comprises a magnetoresistive sensor (see Col. 116, Lines 56-61).

**As to dependent claim 9**, Hyatt teaches the method of claim 8, wherein the measurement signal is stored in a storage device, and comparing is performed using a comparator (see Col. 46, Lines 4-7).

**As to dependent claim 10**, Hyatt teaches the method of claim 8, wherein the control signal is generated via decision logic (e.g., comparison logic), the decision logic being controlled by the comparison signal (see Col. 88, Lines 48-68), the decision logic generating the control signal if a predetermined criterion is satisfied (see Col. 99, Lines 36-43).

**As to dependent claim 11**, Hyatt teaches the method of claim 9, wherein the comparator comprises at least one of a signal sign comparator and a signal level comparator (see Col. 23, Lines 36-64).

**As to dependent claim 12**, Hyatt teaches the method of claim 10, wherein the error signal is generated based on an output of a time signal generator and an output of the decision logic (e.g., bias reference signal will be shifted out of CCD memory 932 to

refresh circuit 996 for compensating the data signal 936 for bias errors) (see Figure 9F; and Col. 65, Lines 14-17); and

wherein the intermediate signal is based on both the sensor signal and the error signal (see Col. 19, Lines 35-43).

**As to dependent claim 13**, Hyatt teaches the method of claim 1, wherein the control signal comprise a signal output of the detector (see Col. 82, Lines 34-44).

**As to dependent claim 14**, Hyatt teaches the controller of claim 1, wherein the sensor generates the sensor signal based on one or more input signals applied to the input of the forward path (see Col. 19, Lines 35-43).

**As to dependent claim 15**, Hyatt teaches the method of claim 8, wherein the sensor generates the sensor signal based on one or more input signals applied to the input of the forward path (see Col. 19, Lines 35-43).

**As to dependent claim 17**, Hyatt teaches the controller of claim 16, wherein the detector (e.g., detectors 643 and 645) (see Col. 82, Lines 34-44) comprises:

a storage device (e.g., memory) to store a measurement signal (see Col. 76, Lines 36-41); and

a comparator (e.g., comparator 617) to compare the intermediate signal to the measurement signal and to output a comparator signal (see Col. 23, Lines 36-37).

**As to dependent claim 18**, Hyatt teaches the controller of claim 17, wherein the detector (e.g., detectors 643 and 645) (see Col. 82, Lines 34-44) further comprises:

decision logic (e.g., comparison logic) to receive the comparator (e.g., comparator 617) signal and to control the control device in accordance with the comparator signal (see Col. 88, Lines 48-68).

**As to dependent claim 19**, Hyatt teaches the controller of claim 16, wherein the control device comprises a clamp circuit (see Col. 82, Lines 35-44).

**As to dependent claim 20**, Hyatt teaches the controller of claim 17, wherein the comparator comprises at least one of a signal level comparator and a signal sign comparator (see Col. 23, Lines 36-64).

### ***Response to Arguments***

6. Applicant's amendment and arguments filed November June 24, 2009 have been fully considered. The amendment does not overcome the original art rejection and the arguments are not persuasive. The following are the Examiner's observations in regard thereto.

#### **Examiner Responds:**

Examiner is not persuaded. Examiner apologizes for the confusion caused by pointing to Figure 9. More specific examples of prior art anticipation of claim limitations are presented above. See office action above for newly presented limitations anticipated by the prior art.

***Conclusion***

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tejal J. Gami whose telephone number is (571) 270-1035. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert DeCady can be reached on (571) 272-3819. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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